

UC SANTA BARBARA

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## **UCSB Researchers Participate in JASON Project**

The University of California, Santa Barbara is a participant in the latest "JASON" project, a multimedia educational event of large proportions that will be centered at the Santa Barbara Maritime Museum.

For months several UCSB researchers have helped to prepare curricula and a variety of teaching activities for the two-week program that begins January 27. Called "JASON XIV: Shore to Sea," the project will involve students in grades four through nine from across the nation in real-time audio-video communications with researchers on land and under the Santa Barbara Channel. There will be 44 interactive sites at schools across the country.\* The students will have an opportunity to ask questions of researchers and even help guide experiments.

Two featured researchers from UCSB are Tanya Atwater and Jenn Caselle.

Atwater, professor of geological sciences and a member of the prestigious National Academy of Sciences, spends a great deal of time on educational outreach activities. For the JASON project she has worked with teachers on hands-on science activities and even created a moving puzzle that shows how the geologic plate with the Santa Barbara Channel Island chain and the local section of mainland has rotated 90 degrees clockwise, making an East-West configuration unlike the more North-South orientation of the rest of the coast. The islands are actually a continuation of the Santa Monica mountains and used to lie offshore of San Diego. Atwater and

graduate student Nate Onderdonk are featured in a pre-recorded session as they explain the evidence for this rotation which occurred about 18 million years ago. Atwater has also created animations demonstrating the movement of the land which are available on the Internet. (See <http://www.geol.ucsb.edu/faculty/atwater/>)

Atwater describes her background on the JASON XIV web pages ( <http://www.jason.org/public/whatis/start.aspx>), explaining how she was drawn to her field and her focus on the plate tectonic history of western North America, and how it relates to the area's underwater and dry land geology.

Caselle, science coordinator for PISCO (Partnership for Interdisciplinary Studies of Coastal Oceans) and assistant research biologist at UCSB's Marine Science Institute, will appear in five live segments while diving in the water just off Anacapa Island during the second week of the JASON project.

She will explain how the circulation patterns in the Channel region influence the communities that live on near-shore reefs. As part of the curriculum for JASON XIV, she took a student host with her to compare intertidal areas north and south of Point Conception. They learned that because the Channel is warmer and nutrient depleted compared to areas north of Point Conception, the diversity and abundance of marine algae and organisms is low. The opposite is true to the north of Point Conception.

During her live video segments she will show techniques for monitoring kelp forests and explain how kelp reefs form habitat for marine animals. She will explain how to count organisms in quadrants or cubes of ocean and how important it is to have baseline data in order to see changes over time.

On the JASON web page Caselle explains some of her current work: "Very generally I am interested in understanding near-shore marine ecosystems and specifically understanding the pathways of larval dispersal in marine organisms and the connections between populations. I have done this work in tropical and temperate reef systems, but PISCO studies only the West Coast of the U.S. from Washington down to Southern California. I am also interested in fisheries ecology and how to better understand and manage our marine resources."

Caselle said she is spending an extraordinary amount of time on the JASON project but that it's worth it to be able to reach the millions of school children that JASON serves.

Robert Ballard, chief scientist and founder of JASON for Education, received his B.A. from UCSB in 1965. In 1998 he received a Distinguished Alumni Award from the UCSB Department of Geological Sciences.

\*In addition to the 44 interactive sites linking researchers with middle school science classrooms across the country, there will be a live webcast on the JASON Internet site.

Additionally the National Geographic Channel will broadcast the event at 2 p.m. Eastern Time each day. (Check local cable listings for times.)

Related Links

[JASON XIV Web Site](#)

[Atwater Animations](#)

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## **About UC Santa Barbara**

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.